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AUTHOR Griffiths, Jose-Marie; And Others
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ABSTRACT

This document contains validated activities and competencies needed by librarians working in a database distributor/service organization. The activities of professionals working in database distributor/service organizations are listed by function: Database Processing; Customer Support; System Administration; and Planning. The competencies are grouped under the categories of Knowledge, Skills, and Attitudes, and three professional levels are dealt with: entry level (0-3 years experience), mid-level (4-9 years experience), and senior level (10 or more years experience). (THC)

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**NEW DIRECTIONS IN LIBRARY AND
INFORMATION SCIENCE EDUCATION
FINAL REPORT
VOLUME 2.6
DATABASE DISTRIBUTOR/SERVICE
PROFESSIONAL COMPETENCIES**

1984

By:

Jose-Marie Griffiths, Ph.D.
Paula Meise Strain
Ellen A. Sweet

Submitted to:

Library Education, Research and Resources Branch
Center for Educational Improvement
Office of Educational Research and Improvement
U.S. Department of Education
Suite 725, Brown Building
1200 19th Street, N. W.
Washington, D.C. 20202-1630

King Research, Inc.
6000 Executive Boulevard
Rockville, Maryland 20852

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VOLUME TWO: SPECIFIC COMPETENCIES

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INTRODUCTION

This document contains validated activities and competencies needed by information professionals working in a database distributor/service organization. The following operational definition of competency was developed:

A competency is a generic knowledge, skill or attitude of a person that is casually related to effective behavior as demonstrated through external performance criteria, where:

- Knowledge is having information about, knowing, understanding, being acquainted with, being aware of, having experience of, or being familiar with something, someone, or how to do something.
- Skill is the ability to use one's knowledge effectively.
- Attitude is a mental or emotional approach to something, or someone.

We have identified several types of knowledge that are necessary to perform information work satisfactorily as follows:

- Basic knowledge in such areas as language, communication, arithmetic operations, etc.
- Subject knowledge of primary subject fields of users served such as medicine, chemistry, law, etc.
- Library and information work environments such as the information community, its participants and their social, economic and technical interrelationships, etc.
- Knowledge of what work is done such as the activities required to provide services and produce products, etc.
- Knowledge of the organization or user community served such as the mission, goals, and objectives of the user or the organization, user's information needs and requirements, etc.

There appear to be three kinds of skills necessary to perform information work satisfactorily including:

- Basic skills such as cognitive, communication, analytical, etc.
- Skills related to each specific activity being performed such as negotiation of reference questions, evaluation of search outputs, etc.
- Other skills such as managing time effectively, budgeting and making projections, etc.

Attitudes of information professionals are found to be extremely important to work performance. We have found it useful to subdivide attitudes into:

- Dispositional attitudes toward one's profession, the organization served, one's work organization, and other people such as users and co-workers.
- Personality traits/qualities such as confidence, inquisitiveness, sense of ethics, flexibility, etc.
- Attitudes related to job/work/organization such as willingness to accept responsibility, willingness to learn, desire to grow, etc.

The activities and competencies are organized according to the functions which information professionals perform, and by professional level as displayed in Figure 1. The competencies are cumulative across professional level, i.e., competencies of mid-level professionals include entries shown at the mid-level as well as those at the entry level, etc.

It is important to understand the distinction between functions performed and positions or job titles. Our rationale behind the functional approach was that we were more concerned with what information professionals do than with what they are called. In a single-person library, therefore, the information professional will undoubtedly perform more than a single function. In using and interpreting the competency data in this document, it is important to consider the functions being performed by

FUNCTIONS	ACTIVITIES		KNOWLEDGE		SKILLS		ATTITUDES	
	Essential Versus Desirable	More versus Less Important in Future	Essential Versus Desirable	More versus Less Important in Future	Essential Versus Desirable	More versus Less Important in Future	Essential Versus Desirable	More versus Less Important in Future
	ENTRY LEVEL	ENTRY LEVEL	ENTRY LEVEL	ENTRY LEVEL	ENTRY LEVEL	ENTRY LEVEL	ENTRY LEVEL	ENTRY LEVEL
	MID LEVEL	MID LEVEL	MID LEVEL	MID LEVEL	MID LEVEL	MID LEVEL	MID LEVEL	MID LEVEL
	SENIOR LEVEL	SENIOR LEVEL	SENIOR LEVEL	SENIOR LEVEL	SENIOR LEVEL	SENIOR LEVEL	SENIOR LEVEL	SENIOR LEVEL

Figure 1 Organization of Activities and Competencies

professionals and the activities being performed to determine which competencies are appropriate. The functions were not broken down for professionals working in database distributor/service organizations.

Three professional levels were defined as follows:

- entry level (up to 3 years of professional experience)
- mid level (4-9 years of professional experience)
- senior level (10 or more years of professional experience).

The activities performed are listed first and numbered sequentially. The actual assignment of individual activities to subcategories of the major activities and to the functions varies from one worksetting to another. The organization of activities that we developed provided us with the "best fit" case. Indented and unnumbered activities are essentially paraprofessional activities which, in small organizations, may be performed by professionals.

ACTIVITIES

DATABASE DISTRIBUTOR/SERVICE

ENTRY LEVEL

Database Processing

1. Maintain record of receipt of magnetic tapes from database producers
2. Work with data processing staff to coordinate the regular processing of tapes received
3. Participate in database testing and file rebuilding
4. Assist mid level staff with procedures, documentation and communication to support and control regular receipt of tapes from database producers and to resolve any minor problems which may arise
5. Assist mid level staff with procedures, documentation and communication to support and control shipment of processed tapes to remote search centers and to resolve any minor problems which may arise
6. Assist mid level staff in developing and editing the master index file (a tool to help users determine which databases to search)

Customer Support

7. Assist senior staff with procedures, documentation and communication to support the implementation of regular and special training classes, refresher workshops and system demonstrations
8. Train users in the basics of computer retrieval, equipment operation, network protocol, system protocol, search languages, query formulation and in the characteristics and searching requirements of specific databases
9. Answer customer service phones and provide users with technical advice and assistance in problem identification, search strategy, equipment operation, etc. Whenever an immediate response cannot be given, consult experts and/or investigate the problem; provide a prompt reply to the user
10. Respond promptly to users' questions/comments entered in an online comments file or received as correspondence
11. Enter news for system users in the online news files
12. To support current awareness services, run stored search formulations at specified intervals
13. Prepare all offline printouts for mailing/delivering

ACTIVITIES

DATABASE DISTRIBUTOR/SERVICE

ENTRY LEVEL

Customer Support (cont'd)

14. Forward all online orders for articles/documents to the appropriate suppliers (database producers or independent suppliers), if required
15. Assist mid level staff in developing and testing practice files for use as training aids
16. Suggest ways in which the system may be made more user-friendly

Other

17. Participate as a team member in staffing exhibits and demonstrating the system at professional meetings and conferences
18. Assist mid level staff in investigating problems related to charges to users and royalty payments to database producers
19. Participate in cross-education of staff by filling out and distributing staff alert forms describing new information discovered about the system, specific databases, specific types of equipment, telecommunications systems, etc.
20. Perform special studies, as assigned
21. Conduct business by phone, whenever appropriate
22. Write memos and letters, as required
23. Maintain a record of work performed and prepare a monthly report of activities
24. Prepare manuals of procedures
25. Make recommendations to the section manager for improvement in operations of the section
26. Attend and participate in staff meetings
27. Provide an overview of the operations of the section to visitors, as requested
28. Supervise technicians and other paraprofessional staff
29. Work to develop "esprit de corps" among staff supervised
30. Assist section manager in writing job descriptions for self and for staff supervised

ACTIVITIES

DATABASE DISTRIBUTOR/SERVICE

ENTRY LEVEL

Other (cont'd)

31. Assist section manager in developing performance standards for self and for staff supervised
32. Assist section manager in the review and performance evaluation of staff supervised
33. Assist in the selection of new technicians and paraprofessionals
34. Keep abreast of developments in the information field and online retrieval, distribution of databases, telecommunications networks, and microcomputers
35. Attend professional meetings and prepare reports for dissemination to staff
36. Develop professional contacts both within and outside the parent organization

DATABASE DISTRIBUTOR/SERVICE

MID LEVEL

Database Processing

37. Keep abreast of industry-wide standards for online databases
38. Work with senior data processing staff to ensure that established standards are maintained in online files processed and distributed by the service
39. Assist data processing staff in writing the technical specifications for conversion of data supplied by database producers into the format compatible with the service's retrieval system
40. Identify additional processing of data which could result in increased search capabilities
41. Work with data processing staff and section staff to develop procedures for database testing and file rebuilding
42. Coordinate all activities related to database testing and file rebuilding by section staff

ACTIVITIES

DATABASE DISTRIBUTOR/SERVICE

MID LEVEL

Database Processing (cont'd)

43. Coordinate all activities related to the regular receipt of tapes from database producers and resolution of minor problems associated with these activities; refer major problems to senior staff
44. Coordinate all activities related to the regular shipment of processed tapes to remote search centers and resolution of minor problems associated with these activities; refer major problems to senior staff
45. Coordinate the development and editing of the master index file by section staff

Customer Support

46. Function as editor and chief writer of all manuals for system users and other technical documentation describing the database service (monthly newsletters, pocket guides, fact sheets, information brochures, etc.)
47. Work with appropriate organization/contract personnel to arrange for printing of all system documentation; arrange for distribution as required
48. Coordinate all activities related to enrollment of new users of the service (distribute information packages, process applications, review equipment configurations, assign user codes, input and test codes, arrange for telecommunications linkages, etc.)
49. Develop and conduct training classes in advanced search techniques
50. Develop and maintain expertise in the knowledge and use of databases in specific subject areas
51. Develop and conduct advanced training classes for users of databases in the selected subject areas
52. Work with data processing staff and section staff to develop and test practice files for use as training aids

System Administration

53. Use computer software packages to provide the section manager with regular and on-demand statistics and management information reports
54. Run computer programs which compute the monthly bills for database service users and the monthly royalty/usage charges for database producers

ACTIVITIES

DATABASE DISTRIBUTOR/SERVICE

MID LEVEL

System Administration (cont'd)

55. Forward the billing/obligation data to the appropriate fiscal control office/agent
56. Coordinate investigation of all problems related to charges to users and royalty payments to database producers; draft correspondence for the section manager's signature
57. Assess performance of existing equipment/systems/services used by section staff and investigate capabilities of other equipment/systems/services
58. Recommend acquisition of new/additional equipment/systems/services
59. Train staff in operation and in-house maintenance of equipment/systems
60. Supervise in-house operation and maintenance of equipment/systems
61. Gather information for maintenance contracts on equipment/systems
62. Draft statements of work for contract proposals for services, systems, equipment and/or maintenance
63. Evaluate contractors' proposals
64. Train and supervise entry level staff
65. Assist in the selection of non professional staff
66. Write articles for professional journals/newsletters when appropriate

DATABASE DISTRIBUTOR/SERVICE

SENIOR LEVEL

Planning

67. Work with organizational staff to identify databases which should be considered for inclusion in or addition to the database service
68. Contract for/conduct market surveys to identify the potential need, demand for and response to distribution of the various databases
69. Recommend modification of the list of databases considered for distribution based on analyses of market survey results

ACTIVITIES

DATABASE DISTRIBUTOR/SERVICE

SENIOR LEVEL

Planning (cont'd)

70. Work with mid level staff, data processing staff and representatives of database producers to identify the technical requirements for data supplied by the individual producers
71. Work with representatives of the database producers to determine preliminary policies, procedures and estimated charges related to distribution of the individual databases
72. Work with legal/contract personnel to prepare, negotiate and monitor the contracts to support distribution of and reimbursement for the supplied data
73. Work with appropriate staff at remote search centers to develop policies and procedures for operation of the service at the remote centers
74. Work with mid level staff, data processing staff and representatives of the telecommunications networks to identify the technical requirements for accessing the service's retrieval system via the available networks
75. Work with the representatives of telecommunications systems to determine preliminary policies, procedures and estimated charges related to use of their networks
76. Work with legal/contract personnel to prepare, negotiate and monitor the contracts with the various telecommunications networks
77. Identify suppliers of articles and documents who will accept orders online for cited materials
78. Work with legal/contract personnel to prepare, negotiate and monitor the contracts/agreements with the various document suppliers
79. Estimate the costs which must be charged to users of the service in order to cover costs and make a profit
80. Work with marketing staff, as required, in developing the marketing strategy for the database service and in preparing ads and documentation for potential customers

ACTIVITIES

DATABASE DISTRIBUTOR/SERVICE

SENIOR LEVEL

Database Processing

- 81. Coordinate final validation testing of new system capabilities
- 82. Work with appropriate personnel to resolve major procedural problems related to receipt and processing of tapes from database producers and shipment of processed tapes to remote search centers
- 83. Plan and coordinate all training activities and system demonstrations for the database service (includes training of both information professionals and end-users, update workshops, and seminars on advanced searching techniques, specific databases, and databases in specific subject areas)
- 84. Plan and develop the objectives and general outline for each training program/demonstration with the assistance of section staff
- 86. Monitor and evaluate all training activities and system demonstrations by direct observation and by review of attendees' written evaluations.
- 86. Advise section staff of ways in which they may improve training sessions, documents, and exercises
- 87. Obtain input from users regarding changes to and/or improvements in the database service which they would recommend

Other

- 88. Arrange with the individual database producers to provide database training for selected staff of the service and to review documentation on the individual databases prepared by the service's staff
- 89. Prepare a listing of databases protected by copyright. Draft documentation advising system users to obtain copyright clearances from the individual copyright holders when required
- 90. Represent the database service as an official spokesperson at professional meetings and conferences
- 91. Function as a technical expert in all matters related to daily operations of the database service
- 92. Draft section procedures and policies; draft revisions as required
- 93. Flowchart and document section procedures
- 94. Assist section manager in on-going systems analysis of the section.

ACTIVITIES

DATABASE DISTRIBUTOR/SERVICE

SENIOR LEVEL

Other (cont'd)

- 95. Analyze statistics of section operations and prepare draft statistical reports
- 96. Train and supervise mid level staff
- 97. Assist section manager in preparing the annual budget for section operations
- 98. Function as section manager in his/her absence

KNOWLEDGE

DATABASE DISTRIBUTOR

ENTRY LEVEL

Basic knowledge

knowledge related to literacy, numeracy, communications, etc.

Subject knowledge

knowledge of the primary subject fields of users served (e.g.,
medicine, chemistry, law, etc.)
knowledge of foreign languages

Information Science Knowledge (Generic)

knowledge of definition, structure, and formats of information
knowledge of alternative approaches to the organization of information
knowledge of alternative approaches to retrieval of information
knowledge of alternative approaches to information management
knowledge of available and emerging information technologies and their
applications
knowledge of completed and ongoing research in the field and its
applicability to practice
knowledge of career opportunities
knowledge of how to learn on an ongoing basis

Knowledge about information work environments

knowledge of the expanding information community, its participants and
their interrelationships (social, economic, technical, etc.)
knowledge of the variety of work settings and their organizational
structures
knowledge of the functions performed within the various work settings
and the services and products offered
knowledge of the users of the services and products, their character-
istics and information habits

Knowledge of what work is done

knowledge of the database distribution functions, the range of services
and products offered (both actual and potential)
knowledge of the activities that are required to offer the services and
produce the products
knowledge of the various resources that are necessary to support the
activities
knowledge of tools supporting use of the database service
knowledge of methods and techniques of online retrieval
knowledge of performance expected and how it can be measured
knowledge of job responsibilities and working conditions (e.g., range
of duties, probable compensation, benefits, etc.)

KNOWLEDGE

DATABASE DISTRIBUTOR

ENTRY LEVEL

Knowledge of how to do work

knowledge of how to perform the various activities
knowledge of how to use the tools of the database service
knowledge of how to apply the methods and techniques of online
retrieval and database testing
knowledge of public relations techniques
knowledge of personnel procedures

Knowledge of the organization and specific work unit

knowledge of the mission, goals and objectives of the organization
knowledge of the structure of the organization and the role of the
section within the organization
knowledge of the various projects and key personnel within the organi-
zation
knowledge of the policies and procedures relevant to section operations
knowledge of the various resources available within the organization
(e.g. personnel, equipment, etc.)
knowledge of the users' information needs and requirements

DATABASE DISTRIBUTOR

MID LEVEL

greater depths of knowledge specified above
knowledge of the operations of other sections in the organization and
how they relate to supporting the daily operation of the database
service
knowledge in greater depth in specific subjects and in databases in
those subject areas
knowledge of standards for online databases
knowledge of the contracting process, both in general and within the
organization
knowledge of evaluation methods and techniques to evaluate systems,
services and products

KNOWLEDGE

DATABASE DISTRIBUTOR

SENIOR LEVEL

greater depths of knowledge specified above
knowledge of statistical description, analysis, interpretation and presentation
knowledge of available databases and telecommunications networks to support viable operation of a database service
knowledge of the costs associated with resources (materials, personnel, space, etc.)
knowledge of cost analysis and interpretation methods
knowledge of methods of resource allocation
knowledge of standards, measures and methods for evaluating personnel
knowledge of alternative management structures and their implications for the operation of the section
state-of-the-art knowledge of research and practice in database distribution

SKILLS

DATABASE DISTRIBUTOR

ENTRY LEVEL

Basic Skills

literacy, numeracy, cognitive, analytical, communications, etc.

Skills Related to Specific Activities

Ability to:

perform each activity

teach adults

use computer and telecommunications equipment with ease

perceive the information needs of the data user

establish rapport with colleagues

communicate well by written, verbal and non-verbal means

collect, analyze and interpret data

make decisions and recommendations based on available information

work independently and in groups

develop criteria for evaluation

make effective, timely, and well-informed decisions

isolate and define problems and develop the necessary criteria and
action for their solution

manage time effectively

conduct an interview

supervise staff

DATABASE DISTRIBUTOR

MID LEVEL

Skills Related to Each Specific Activity

Skills listed above are developed to a greater extent

communicate with data processing staff on a technical level

conduct meetings with individuals and groups

arbitrate and negotiate

SKILLS

DATABASE DISTRIBUTOR

SENIOR LEVEL

Skills listed above are developed to a greater extent

anticipate long-range needs of the section and of the organization
design systems and procedures to improve operations of the section and
of the organization
apply methods of measurement and evaluation
budget and make projections
optimize the use of organizational and section resources

ATTITUDES

DATABASE DISTRIBUTOR/SERVICE

Dispositional Attitudes

Attitudes Toward Institutions

Respect for profession
Respect for the section
Respect for the parent organization

Attitudes Toward Other People

Toward Users

Respect users
Like people in general
Like to help people
Like to meet people
Like to make others feel comfortable
Sensitive to others' needs

Toward Others in the Workplace

Respect co-workers
Like to work with others/as a team
Like to work on own
Willingness to draw upon and share knowledge and experience with others
Supportive of co-workers
Enjoy managing/supervising others

Personal Qualities

Alertness
Assertiveness
Compassion/Kindness
Confidence
Cheerfulness
Dependability
Determination/Tenacity
Diplomacy
Emotional stability
Fairness
Flexibility/Versatility
Imagination
Inquisitiveness
Leadership ability

ATTITUDES

DATABASE DISTRIBUTOR/SERVICE

Personal Qualities (cont'd)

Neatness
Need for achievement
Objectivity
Open-mindedness
Optimism/Positive attitude
Organization
Patience
Physical endurance
Resourceful
Sensitive/Thoughtful
Sense of humor
Sense of ethics
Tolerance

Attitudes Related to Job/Work/Organization

Individual should demonstrate:

Willingness to take/accept responsibility
Willingness to take initiative
Willingness to respond to authority, apply and follow policy
Realization that there is no single "right" way to achieve the goals of the section/organization
Desire to learn/try
Willingness to fail
Willingness to ask questions
Desire to work to best of ability
Responsiveness to time constraints
Accuracy
Willingness to get hands dirty
Attention to detail
Willingness to do clerical tasks
Desire to follow-through
Service orientation
Organizational identity
Willingness to promote parent organization and its services
View of parent organization as part of a larger information environment
Ability to see broad picture
Ability to sacrifice short-term gains for long-term goals
Political sense
Curiosity
Variety of interests
Desire to grow personally
Desire to grow professionally
Desire to remain current in specific and general subject field
Positive attitude toward job